DERWENT-ACC-NO:	1997-053819
DERWENT-WEEK:	200734
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TITLE:	Planar boro:phospho:silicate glass film prodn. involves reflowing and then rapid surface cooling

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PATENT-ASSIGNEE: HYUNDAI ELECTRONICS IND CO LTD[HYNX]

PRIORITY-DATA:	1995KR-018554 (June 30, 1995) , 1996DE-1005787 (February 18, 1996)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE
DE 19605787 A1	January 2, 1997	DE
TW 288166 A	October 11, 1996	ZH
GB 2302870 A	February 5, 1997	EN
JP 09017781 A	January 17, 1997	JA
KR 97003653 A	January 28, 1997	KO
GB 2302870 B	April 28, 1999	EN
KR 172039 B1	March 30, 1999	KO
CN 1145336 A	March 19, 1997	ZH
CN 1061635 C	February 7, 2001	ZH
DE 19605787 B4	May 16, 2007	DE

APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-NO	APPL-DATE

DE 19605787A1	N/A	1996DE-1005787	February 18, 1996
KR 97003653A	N/A	1995KR-018554	June 30, 1995
KR 172039B1	N/A	1995KR-018554	June 30, 1995
GB 2302870A	N/A	1996GB-003071	February 14, 1996
GB 2302870B	N/A	1996GB-003071	February 14, 1996
JP 09017781A	N/A	1996JP-028788	February 16, 1996
TW 288166A	N/A	1996TW-102003	February 16, 1996
CN 1145336A	N/A	1996CN-105729	February 18, 1996
CN 1061635C	N/A	1996CN-105729	February 18, 1996
DE 19605787B4	N/A	1996DE-1005787	February 18, 1996

INT-CL-CURRENT:	
TYPE	IPC DATE
CIPP	H01 L 21/316 20060101
CIPP	H01 L 21/3205 20060101
CIPS	C03 C 27/00 20060101
CIPS	C03 C 27/04 20060101
CIPS	H01 L 21/3105 20060101
CIPS	H01 L 21/3105 20060101
CIPS	H01 L 21/316 20060101
CIPS	H01 L 21/768 20060101

ABSTRACTED-PUB-NO: DE 19605787 A1

BASIC-ABSTRACT:

Producing boro-phosphosilicate glass (BPSG) film prodn. involves (a) applying a BPSG film over the entire structure surface of a wafer after forming a number of underlying layers; (b) placing the wafer in a firing furnace and raising the furnace temp. to level the BPSG film surface by reflowing; (c) rapidly cooling the furnace such that the film

surface is rapidly cooled while its interior is slowly cooled; and (d) removing the wafer.

USE - Esp. for forming a planar insulation film on a semiconductor device e.g. an ULSI.

ADVANTAGE - The method gives improved planarity (since higher boron and phosphorus concns. can be used), prevents redn. in photolacquer adhesion caused by moisture absorption during subsequent wet etching of the BPSG film and, by employing rapid cooling, suppresses crystal extn. from the BPSG film and allows better via formation (wineglass-shaped profile).

CHOSEN-DRAWING:	Dwg.1B/3
TITLE-TERMS:	PLANE BORO PHOSPHO SILICATE GLASS FILM PRODUCE REFLOW RAPID SURFACE COOLING

DERWENT-CLASS:	L03 U11

CPI-CODES:	L04-C12D;
EPI-CODES:	U11-C05B2; U11-C05B7;